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Cho et al.

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(54) **CONNECTOR FOR FLAT CABLE**

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H01R 13/58 (2006.01)
H01R 12/61 (2011.01)

(52) **U.S. Cl.**

CPC ***H01R 13/5812*** (2013.01); ***H01R 12/613*** (2013.01)

(58) **Field of Classification Search**

CPC H01R 12/78; H01R 23/668; H01R 23/684; H01R 12/774
USPC 439/496, 495, 67, 77
See application file for complete search history.

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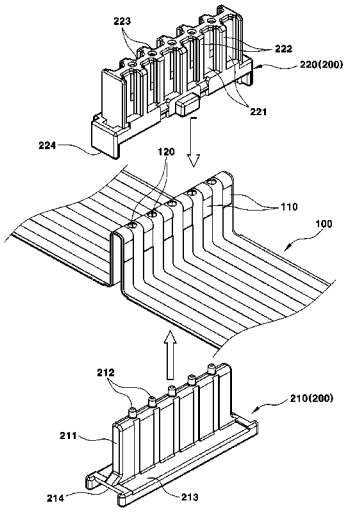
(57) **ABSTRACT**

A connector for a flat cable is provided that prevents damage to a conductor when a terminal is forcedly pressed to a flat cable. The connector for a flat cable includes a retainer that is coupled to flat cable while a portion of the flat cable covers an upper side of a plate-shaped body of the retainer. In addition, a housing is coupled to enclose the body of the retainer and the portion of the flat cable coupled to the body and has a plurality of exposure depressions for exposing exposed conductors at a portion of the flat cable coupled to opposite surfaces of the body to the exterior to connect the conductors to terminals. A position fixing unit is configured to fix a position of the flat cable coupled between the housing and the retainer.

8 Claims, 10 Drawing Sheets



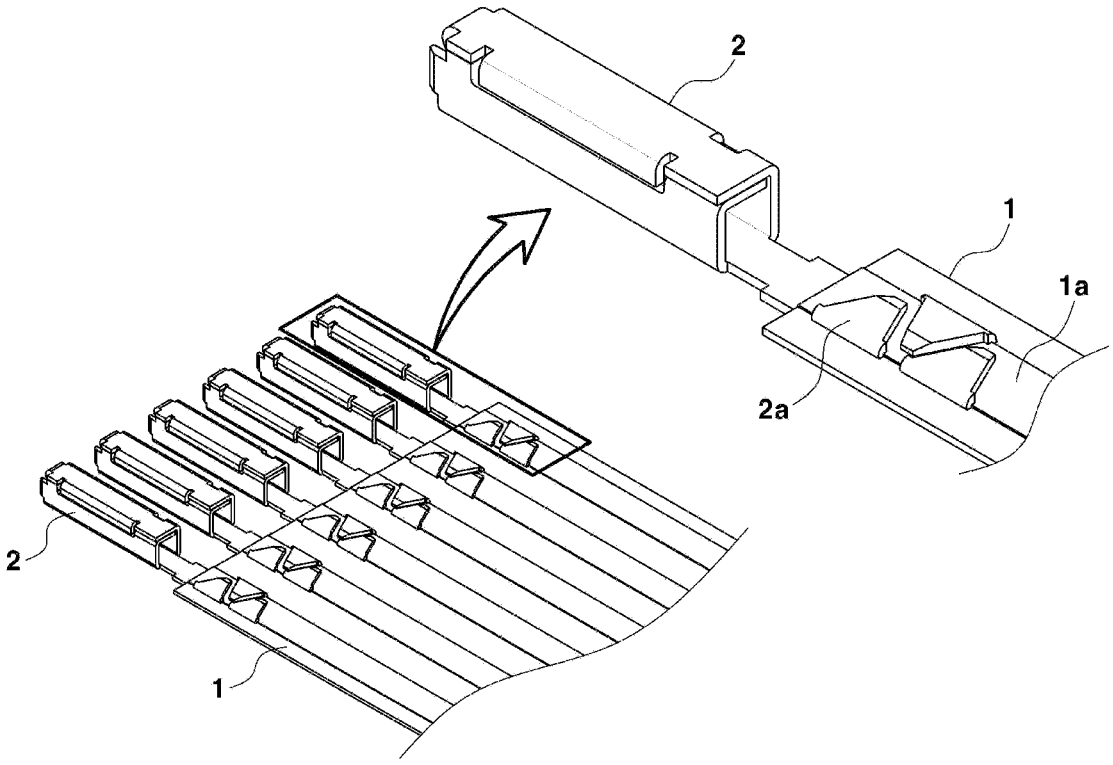


FIG. 1

RELATED ART

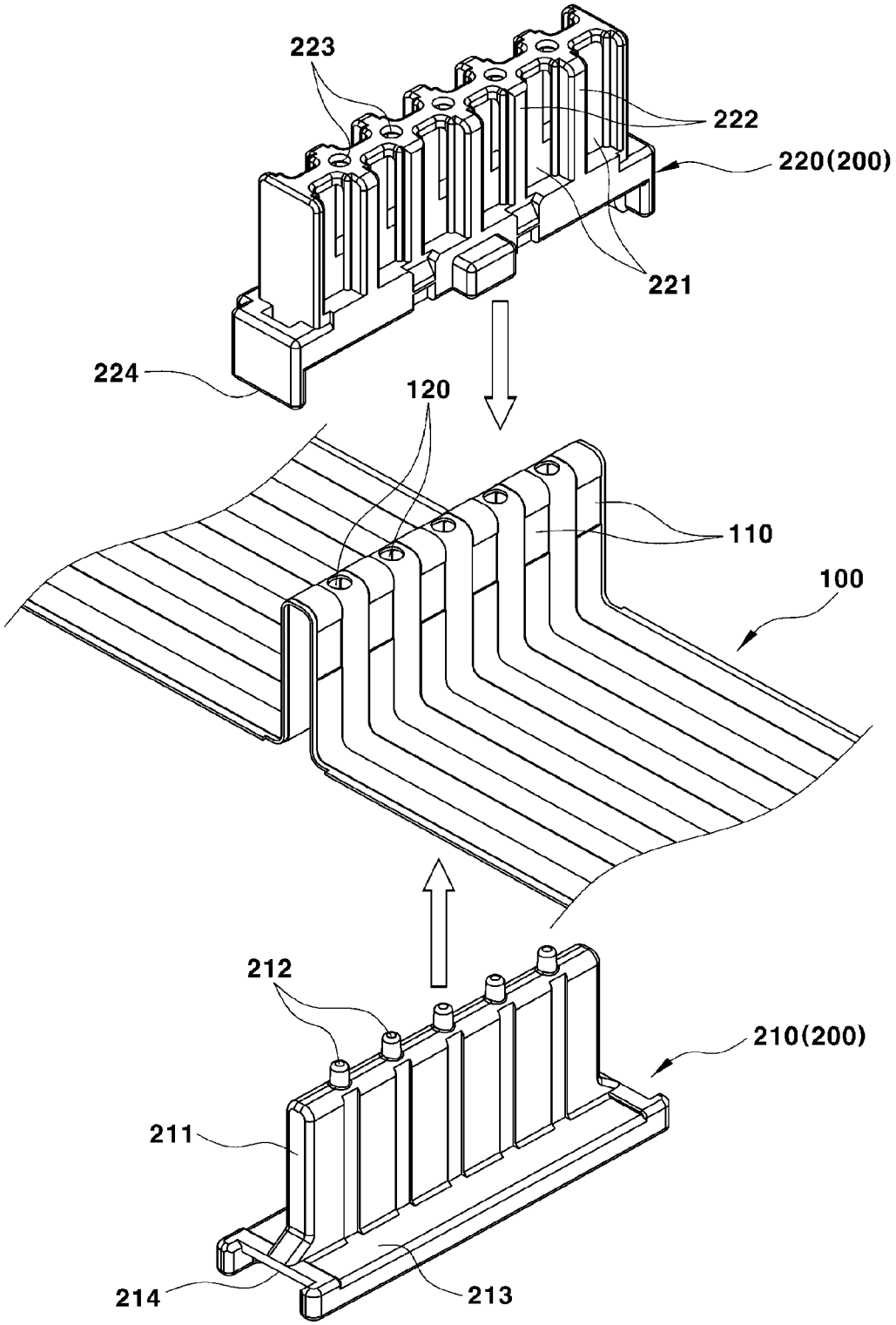


FIG. 2

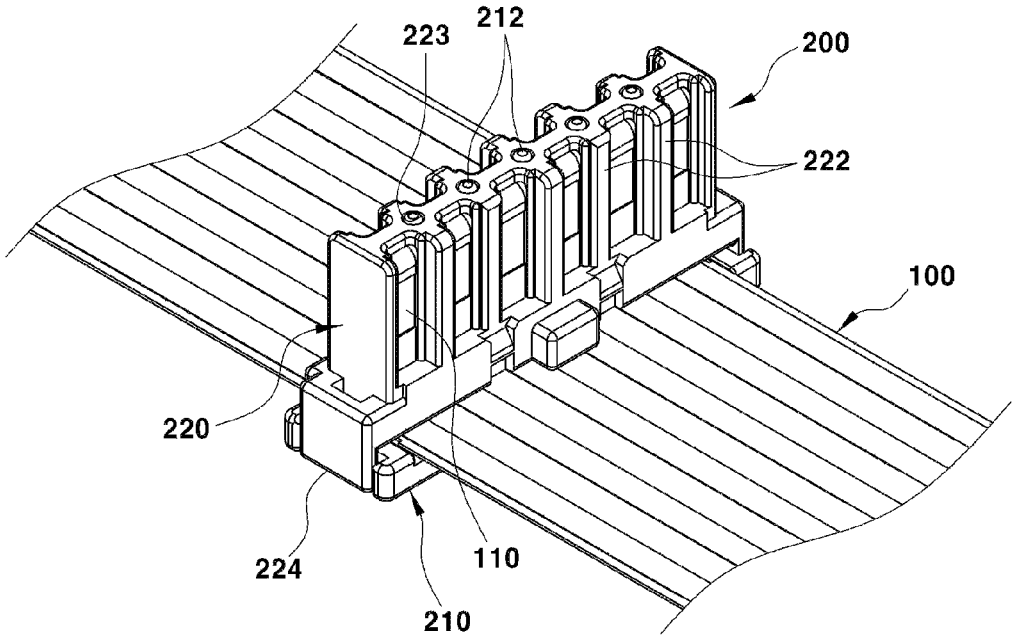


FIG. 3

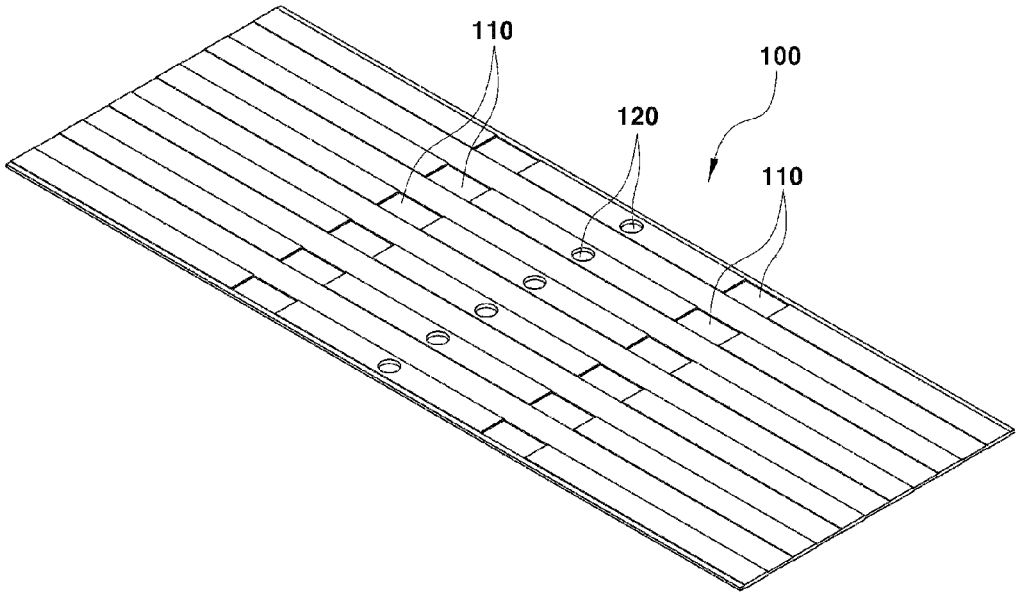


FIG. 4

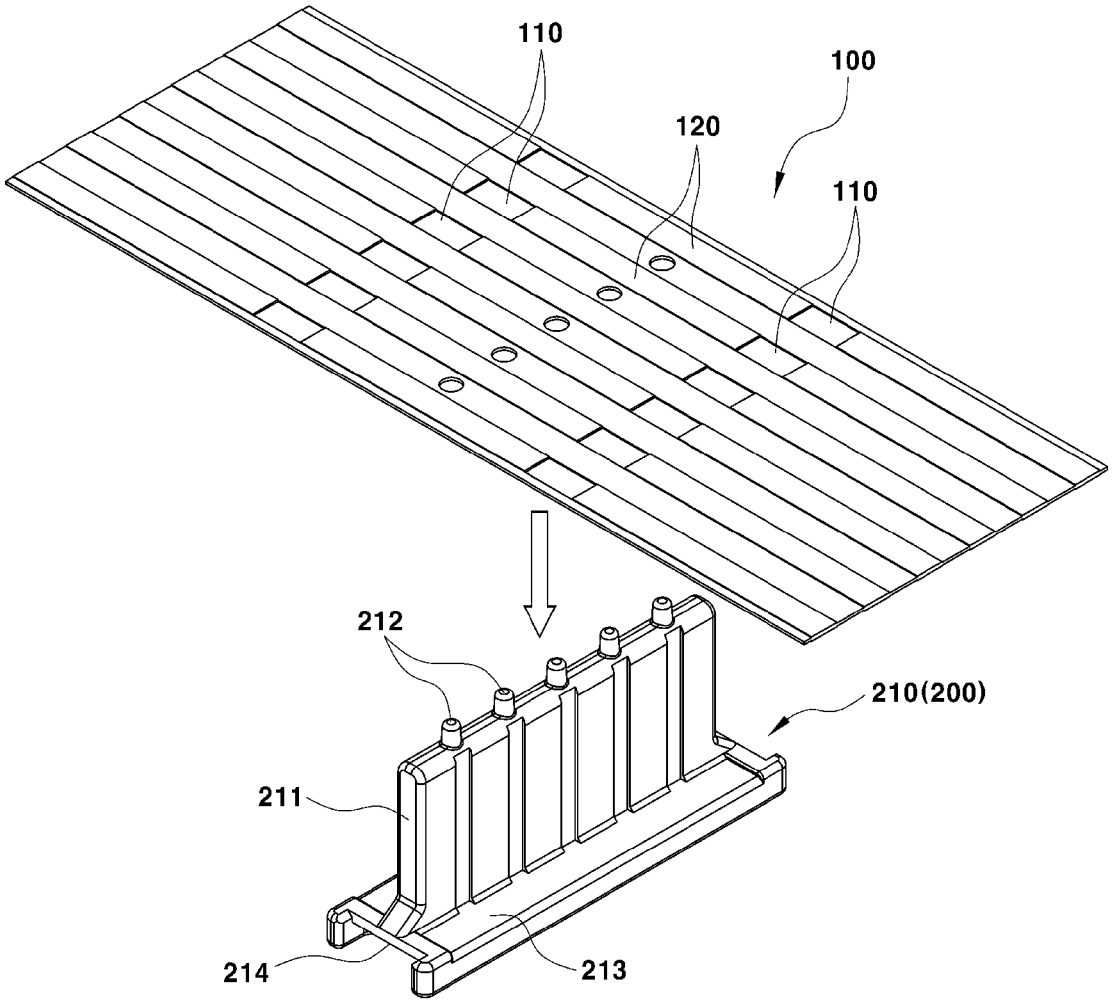
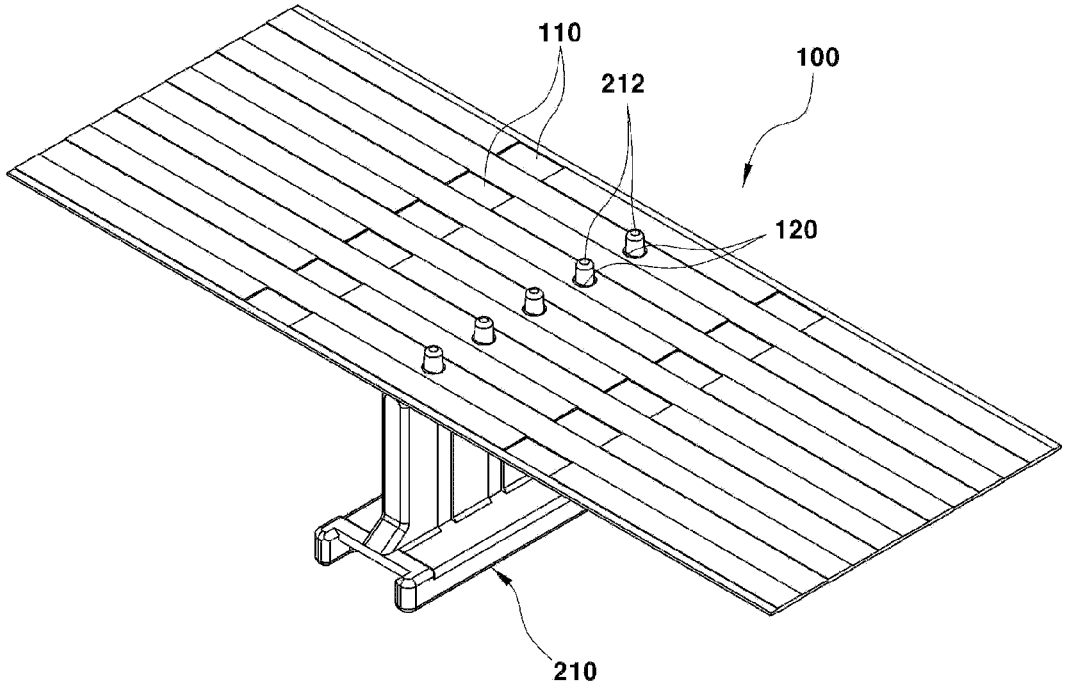


FIG. 5A

FIG. 5B



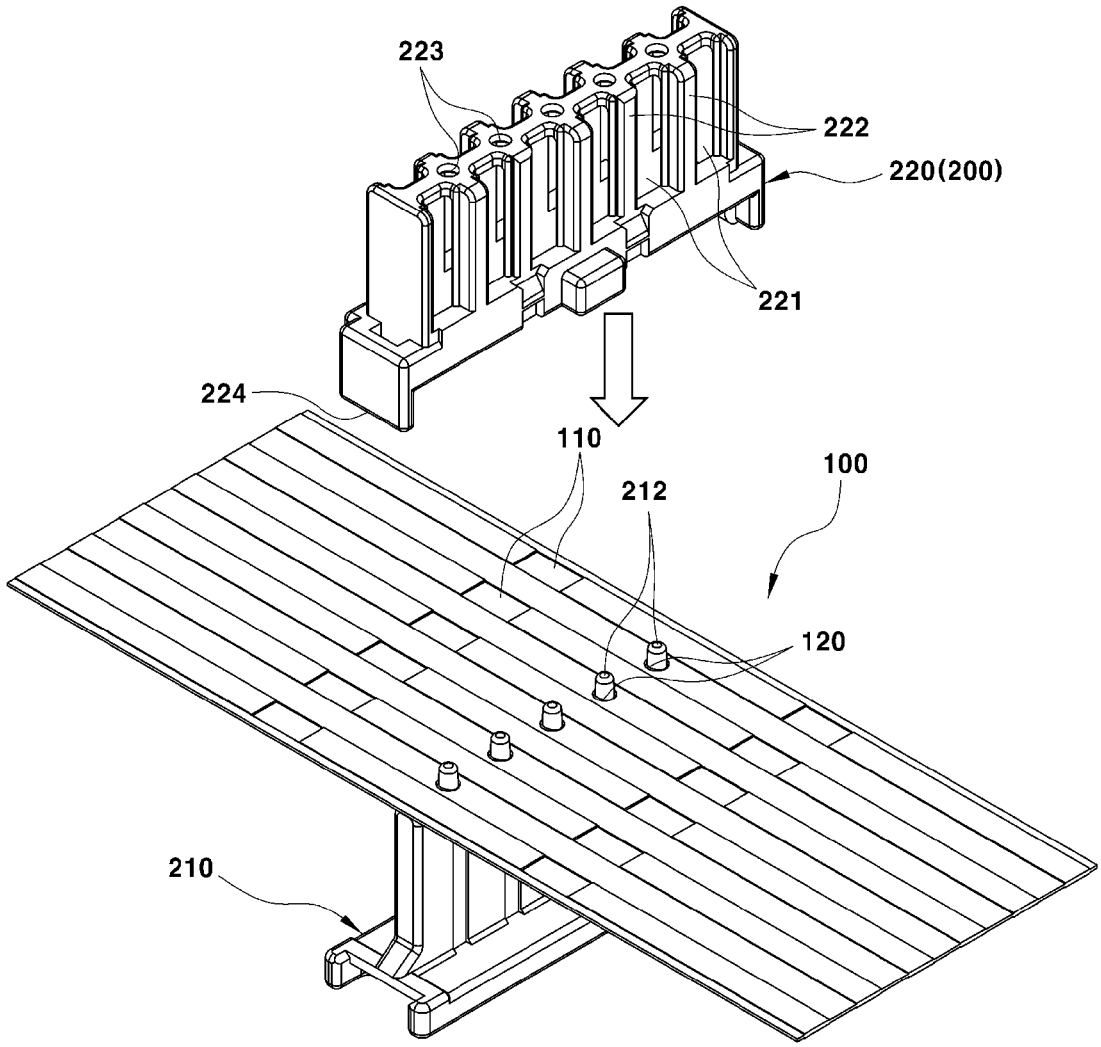


FIG. 5C

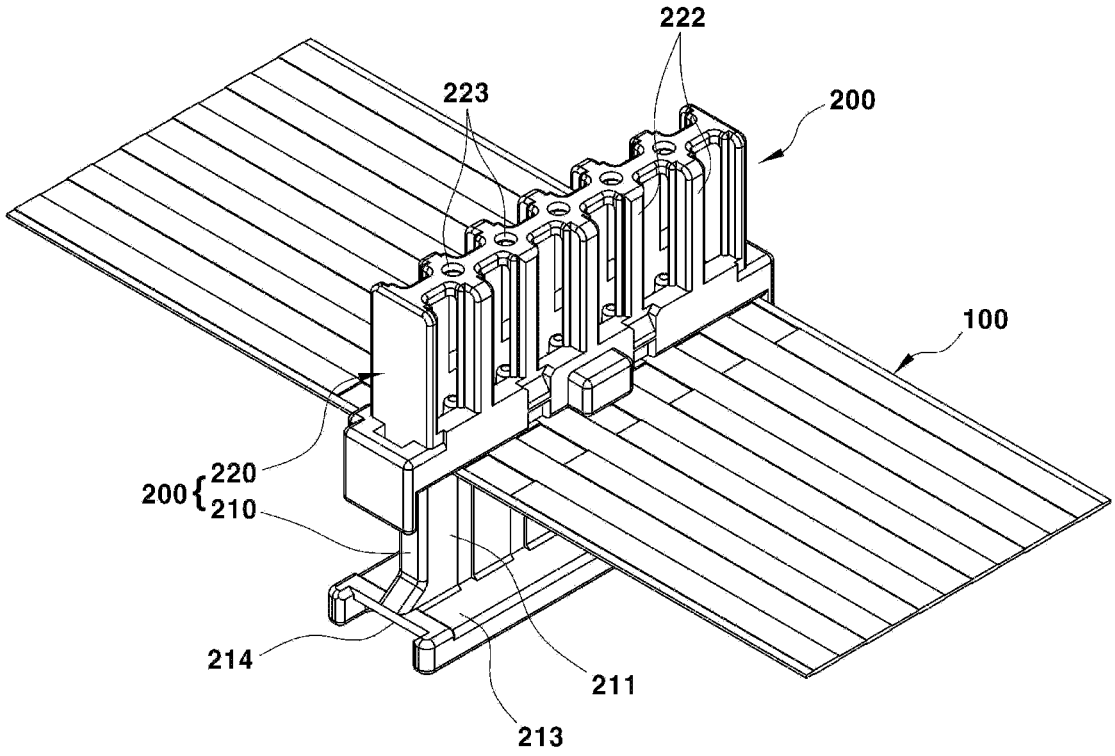


FIG. 5D

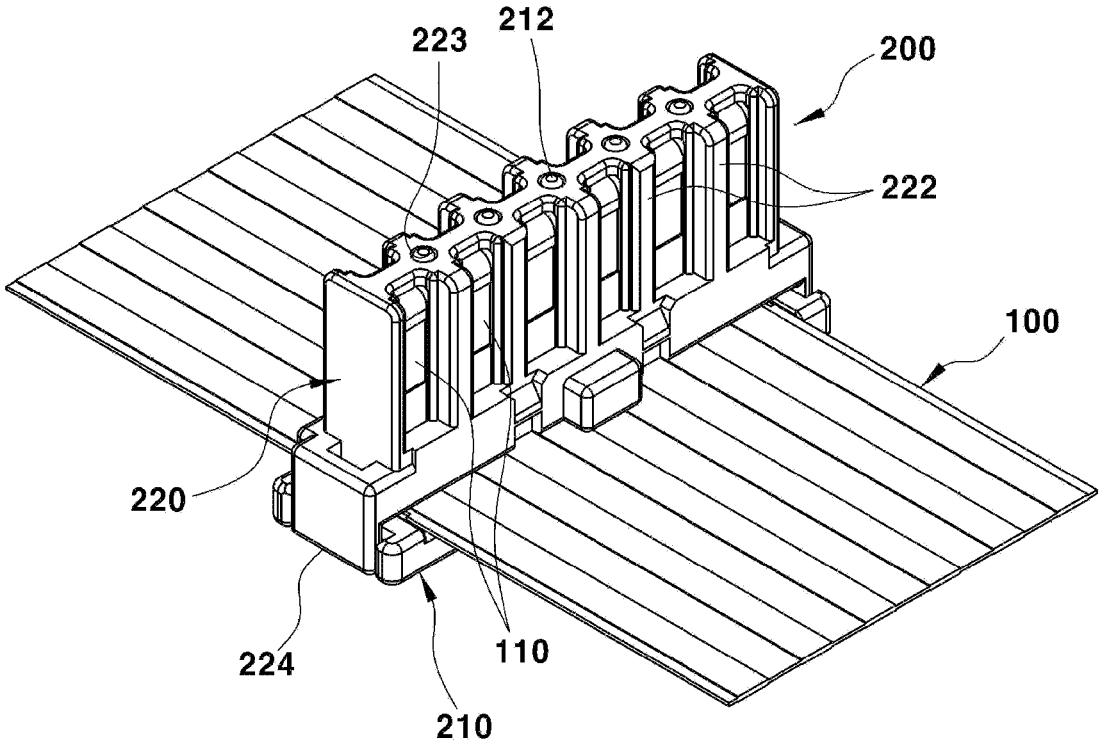


FIG. 5E

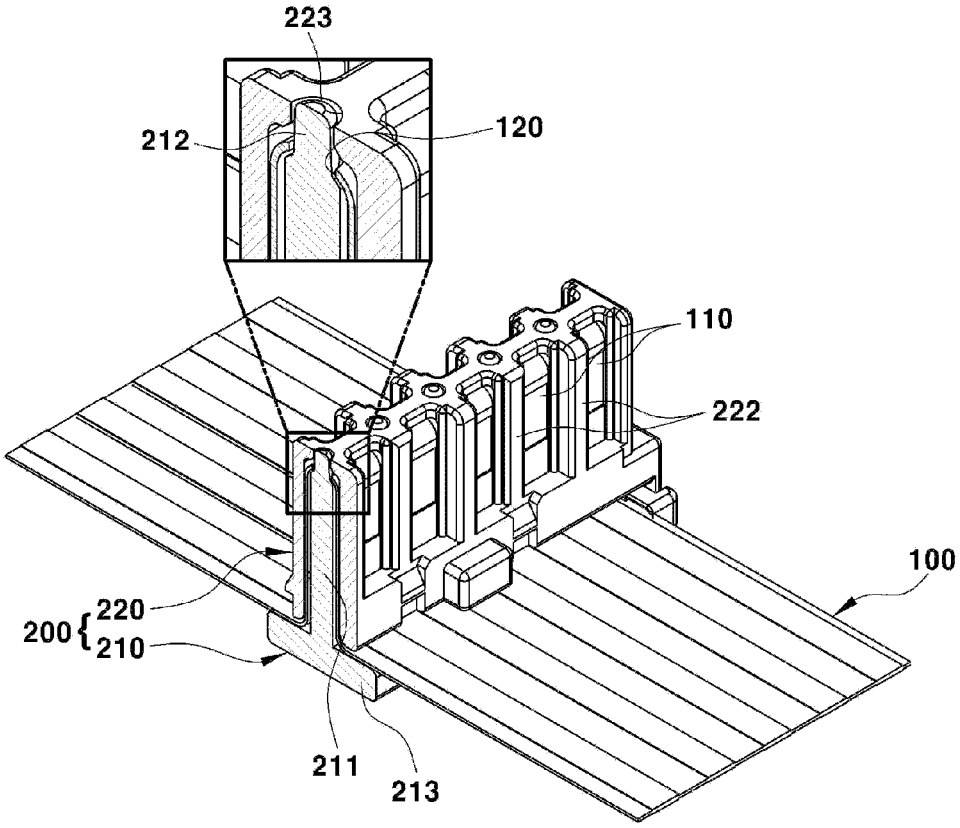

223
212
120
110
222
100
200
220
210
211
213

FIG. 6

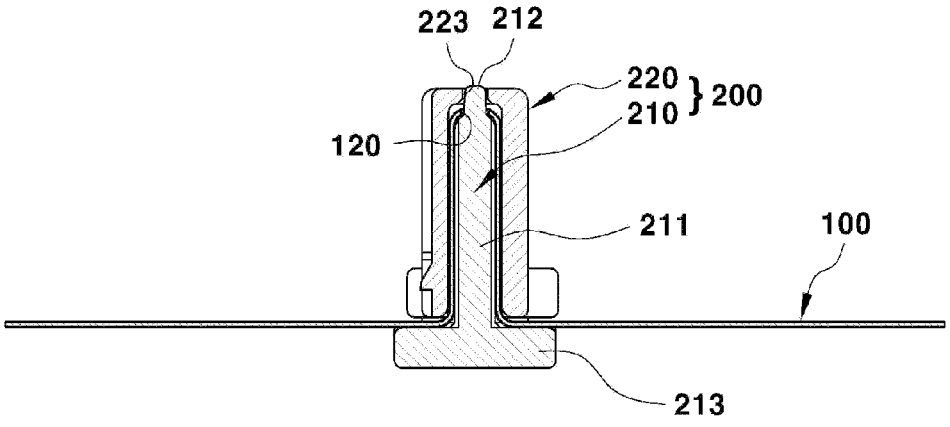

223
212
220
210
200
120
211
100
213

FIG. 7

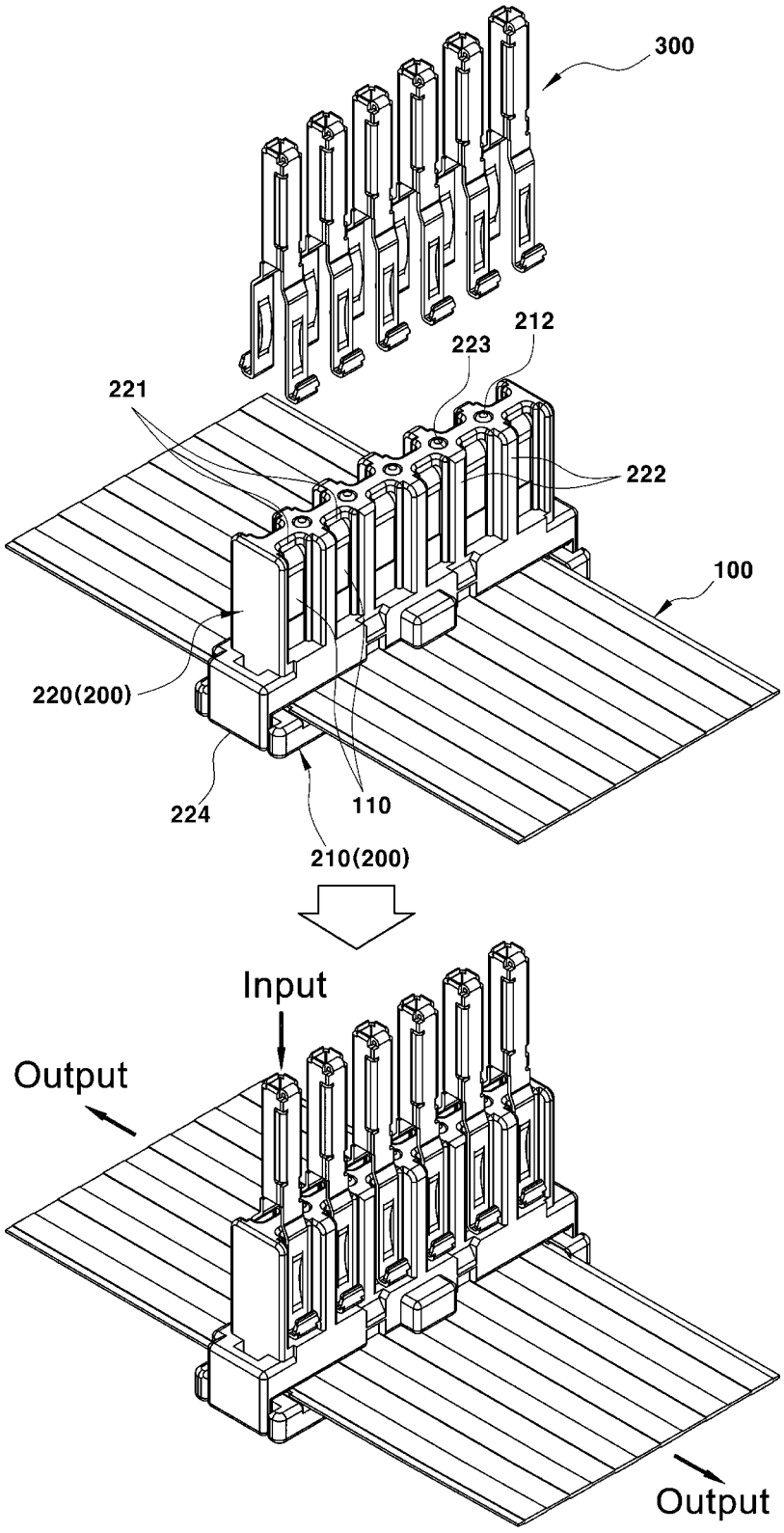

300
212
223
221
222
100
220(200)
224
110
210(200)
Input
Output
Output

FIG. 8

CONNECTOR FOR FLAT CABLE

CROSS-REFERENCE TO RELATED APPLICATION

This application claims under 35 U.S.C. §119(a) the benefit of Korean Patent Application No. 10-2013-0151589, filed on Dec. 6, 2013, the entire contents of which are incorporated herein by reference.

BACKGROUND

(a) Technical Field

The present invention relates to a connector for a flat cable. More particularly, the present invention relates to a connector for a flat cable that prevents damage of a conductor caused by forcedly pressing a terminal to a flat cable.

(b) Background Art

In recent years, flexible flat cables (FFCs) having improved flexibility are being widely used in wirings of electronic devices and wirings of actuating parts for the purpose of saving space (e.g., maximizing space utilization) and simplifying connections due to decrease in size of the electronic devices. In general, flexible flat cables are also referred to as flat cables or multi-core cables, and are widely used in connecting a computer and its peripheral devices, a television, an official replicator, a digital device, and an electronic device and its components of a vehicle. The flexible flat cable has an excellent flexibility, and may be used in actuated components.

FIG. **1** is an exemplary view showing a coupling structure of a flat cable and a terminal according to the related art, and shows a conventional method of connecting and coupling a conductor of a flat cable and a terminal. As shown, in a conventional method of contacting and coupling a flat cable **1** and a terminal **2**, a pressing part **2***a* of a terminal **2** passes through the flat cable **1** and a conductor **1***a* of the flat cable is forcedly pressed and coupled. A current may flow between the terminal **2** and the flat cable **1** by pressing the pressing part **2***a* and the conductor **1***a* together.

However, when the shown coupling structure is applied, the conductor of the flat cable may be damaged while forcedly passing the terminal through the conductor of the flat cable while the flat cable and the terminal are fastened. Further, a defect in a pressing position, that is, distortion of a terminal and a conductor when the terminal and the conductor are pressed may be caused, and since the terminal and the conductor may be pressed at a proper position (e.g., at the appropriate alignment), a pressing defect may be caused and thus a contact defect may occur. Additionally, in the conventional terminal pressing method, as a process of pressing terminals on a flat cable is required, a manufacturing process thereof is complex and production efficiency may decrease.

SUMMARY

Accordingly, the present invention provides a connector for a flat cable that prevents damage to a conductor of a flat cable and pressing defects caused by forcedly pressing terminals on a flat cable. It addition the present invention provides a connector for a flat cable by which a defect may be reduced, the number of processes may decrease, and raw prices may be reduced compared to a method of individually pressing the terminals.

In accordance with an aspect of the present invention, a connector for a flat cable may include: a retainer coupled to flat cable while a portion of the flat cable (e.g., a first portion) covers an upper side of a plate-shaped body of the retainer; a housing coupled to enclose the body of the retainer and the portion of the flat cable coupled to the body and having exposure depressions for exposing exposed conductors at a portion of the flat cable (e.g., a second portion) coupled to opposite surfaces of the body to the exterior to connect the conductors to terminals; and a position fixing unit configured to fix a position of the flat cable coupled between the housing and the retainer.

The housing may have a case shape that accommodates the body of the retainer and the portion of the flat cable coupled to the body, and may be coupled to the retainer and the flat cable to enclose (e.g., entirely enclose) the body of the retainer and the portion of the flat cable by the housing. The exposure depressions of the housing may be formed on opposite surfaces of the housing to reveal (e.g., expose) the exposed conductors at the portion of the flat cable coupled to opposite surfaces of the body of the retainer. In addition, the exposure depressions of the housing may be formed along a lengthwise direction of the exposed conductors at the portion of the flat cable, and may be formed in parallel to expose the parallel conductors at the portion of the flat cable coupled to the body. Partition parts between neighboring exposure depressions of the housing may be formed as a substantially straight line, and the partition parts may guide the terminals when the terminals formed lengthily are inserted into the exposure depressions for connection to the conductors in the housing. The partition parts of the housing may be configured to attach the flat cable located within the housing to the body of the retainer.

Further, the position fixing unit may include position fixing bosses formed in the body of the retainer to be inserted into the insertion bores of the flat cable. The position fixing bosses may be inserted into fixing apertures passing through the insertion bores of the flat cable and fixing apertures formed in the housing. In addition, the position fixing bosses may be formed at an end of the body of the retainer covered by the flat cable along a widthwise direction of the body at a predetermined separation, and the fixing apertures may be formed within the housing on a corresponding surface of the end of the body at a predetermined separation. Further, the retainer may include: a body inserted into and coupled to the housing and plate-shaped such that the portion of the flat cable is folded into a U shape to be attached and coupled to the body between the housing and the body; and a flange integrally formed with one side of the body and coupled to the housing.

According to the connector for a flat cable of the present invention, a flat cable may be inserted into and coupled to a housing and a retainer, the position of the flat cable may be fixed by bosses and apertures in a coupled structure of the housing and the retainer, and terminals may be connected to opposite surfaces of a conductor exposed to opposite surfaces of the housing. Thus, the flat cable may be more stably fixed in the connector, and problems such as damage of the conductor and a connection defect may be prevented compared to a method of inserting the terminals into the flat cable and pressing the terminals according to the related art.

In particular, since two contact points may be provided between the flat cable and the terminal, connection reliability may be improved and a connection defect of the terminals and the conductors may be prevented by guides for preventing the terminals from being inserted incorrectly (e.g., at an incorrect alignment). Further, the assembly process may be simplified, the number of processes may be reduced, productivity may be improved, and raw prices may be reduced compared to a

method of inserting terminals into the flat cable and pressing the terminals according to the related art.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other features of the present invention will now be described in detail with reference to certain exemplary embodiments thereof illustrated the accompanying drawings which are given hereinafter by way of illustration only, and thus are not limitative of the present invention, and wherein:

FIG. **1** is an exemplary view showing a coupling structure of a flat cable and a terminal according to the related art;

FIG. **2** is an exemplary detailed view showing a connector for a flat cable according to an exemplary embodiment of the present invention;

FIG. **3** is an exemplary view showing a connector for a flat cable according to the exemplary embodiment of the present invention;

FIG. **4** is an exemplary view showing a flat cable coupled to connector according to the exemplary embodiment of the present invention;

FIGS. **5**A to **5**E are exemplary views showing a process of assembling the connector and the flat cable according to the exemplary embodiment of the present invention;

FIG. **6** is an exemplary partially sectional view showing the connector for a flat cable according to the exemplary embodiment of the present invention;

FIG. **7** is an exemplary sectional view showing the connector, to illustrate a coupling state of the flat cable according to the exemplary embodiment of the present invention; and

FIG. **8** is an exemplary view a terminal connected to the connector according to the exemplary embodiment of the present invention.

It should be understood that the accompanying drawings are not necessarily to scale, presenting a somewhat simplified representation of various exemplary features illustrative of the basic principles of the invention. The specific design features of the present invention as disclosed herein, including, for example, specific dimensions, orientations, locations, and shapes will be determined in part by the particular intended application and use environment. In the figures, reference numbers refer to the same or equivalent parts of the present invention throughout the several figures of the drawing.

DETAILED DESCRIPTION

The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of the invention. As used herein, the singular forms "a", "an" and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof. As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items.

It is understood that the term "vehicle" or "vehicular" or other similar term as used herein is inclusive of motor vehicles in general such as passenger automobiles including sports utility vehicles (SUV), buses, trucks, various commercial vehicles, watercraft including a variety of boats and ships, aircraft, and the like, and includes hybrid vehicles, electric vehicles, combustion, plug-in hybrid electric vehicles, hydrogen-powered vehicles and other alternative fuel vehicles (e.g., fuels derived from resources other than petroleum).

Hereinafter, an exemplary embodiment of the present invention will be described in detail with reference to the accompanying drawings so that those skilled in the art to which the present invention pertains may easily carry out the present invention. However, the present invention is not limited to the exemplary embodiment, but may be applied in various forms without departing from the spirit of the present invention. The present invention may include constituent elements other than the elements that will be described below if necessary, and parts that are directly relevant to the present invention or repeated contents will not be described in detail. The disposition of the elements described in the specification may be adjusted if necessary, and one element may be included in another element or may be divided into at least two elements.

FIG. **2** is an exemplary detailed view showing a connector for a flat cable according to an exemplary embodiment of the present invention. FIG. **3** is an exemplary view showing a connector for a flat cable according to the exemplary embodiment of the present invention. As shown, the connector **200** (in the form of a male connector) according to the exemplary embodiment of the present invention may include a retainer **210** and a housing **220**.

A structure in which a flat cable **100** is coupled to the connector **200** including a retainer **210** and a housing **220** and a terminal **300** (e.g., a terminal of a female connector as shown in FIG. **8** may directly contact a conductor **110** of the flat cable **100** by improving a method of fastening the flat cable and the terminal through penetration and pressing using a pressing terminal is applied to the connector **200** according to the exemplary embodiment of the present invention. Thus, since a process of pressing an individual terminal may be eliminated, an assembly process may be more easily performed and a production efficiency may be improved.

In a description of the elements, the connector **200** may be a part to which the flat cable **100** may be fixed, and may include a retainer **210** and a housing **220** that connect the flat cable **100** and the terminal. The retainer **210** may be a part to which the flat cable **100** may be attached and coupled and that fixes the flat cable **100** within the housing **220**. In addition, the retailer **210** may include a body **211** and a flange **213** integrally formed at one side of the body **211**. Coupling parts **214** that couple the flange **213** to the housing **220** may formed at opposite widthwise ends of the flange **213**. The body **211** of the retainer **210** may be a part to which the flat cable **100** folded in a U-shaped form is fixed while covering the body **211** of the retainer **210**, and may be inserted into the housing when the retainer **210** is assembled with the housing **220**. Opposite surfaces of the body **211** may be parts to which the flat cable **100** may be attached, and the flat cable **100** may be attached to an inner surface of the housing while the opposite surfaces of the body **211** are inserted into the housing **220**.

When the flat cable **100** is coupled to the above elements, the flat cable **100** may cover an upper side of the retailer **210** after the flat cable **100** is folded into a U-shaped form, in which case the opposite surfaces of the flat cable **100** folded into a U-shaped form may cover upper sides of the opposite surfaces of the body **211** of the retainer **210** and an end of the folded part of the flat cable **100** may be coupled to an upper side of the end of the body **211** of the retainer **210**. Since the flat cable **100** may maintain a fixed state without moving from the body **211** of the retainer **210**, the retainer **210** may include

a position fixing unit configured to fix a position of the flat cable **100** to prevent the flat cable **100** to be moved while being coupled.

In the exemplary embodiment of the present invention, the position fixing unit may be position fixing bosses **212** formed at an end of the body **211** of the retainer **210** along a widthwise direction of the cable (e.g., a widthwise direction of the retainer) by a predetermined separation, and the position fixing bosses **212** may be inserted into insertion bores **120** that pass through the flat cable **100**. The insertion bores **120** of the flat cable **100** may be formed at (e.g., aligned with) portions of the cable that contact an end of the body **211** of the retainer **210**, and more preferably, at portions of a covering part of the cable having no conductors **110**. In other words, the insertion bores **120** may be formed at sides of the conductors at portions of the covering part that corresponds to the position fixing bosses (e.g., at positions where the position fixing bosses of the retainer may be inserted) along a widthwise direction of the cable by a predetermined separation.

Meanwhile, a plurality of conductors disposed in parallel along a lengthwise direction of the cable may be covered by a covering material, and the flat cable **100** may have a conductor **110** (e.g., a part to which a terminal may be connected) obtained by partially removing the covering material to connect the terminal **300** (see FIG. **8**) to a portion of the flat cable **100** coupled to the connector **200**, that is, a portion of the flat cable **100** coupled to the retainer **210** and the housing **220**.

FIG. **4** is an exemplary view showing a flat cable coupled to the connector according to the exemplary embodiment of the present invention. FIG. **4** shows a part of the flat cable **100** to which the connector may be coupled, the insertion bores **120** formed to allow the position fixing bosses of the retainer to be inserted into the insertion bores **120**, and the conductors **110** exposed by removing the covering material from the flat cable **100**. The exposed conductors **110** of the flat cable **100** may be disposed at portions of the cable (E.g., second portions) that contact opposite surfaces of the body **211** of the retainer **210**, and some of the parallel conductors of the flat cable **100**, that is, some sections (e.g., sections to which the terminals may be to be connected) of the cable coupled to the connector **200** may be exposed. Thus, the exposed conductors **110** may also be disposed in parallel to each other by a predetermined separation.

Furthermore, the insertion bores **120** may be disposed between the arrangements of the two exposed conductors **110** that contact the opposite surfaces of the body **211** of the retainer **210**. The housing **220** may have a shape that accommodates the body **211** of the retainer **210** and the flat cable covering the body **211**. The body **211** of the retainer **210** and the flat cable **100** may be coupled to each other while the position fixing bosses **212** may be inserted into the insertion bores **120** during assembly, and the body **211** of the retainer **210** and the flat cable **100** may be inserted into the housing **220** to be assembled.

The housing **220** may be configured to fix the flat cable **100** by attaching the flat cable to the retainer while protecting the flat cable **100** coupled to the retainer **210**. In addition, the housing may have a case shape folded into a U shape and may enclose both the opposite surfaces of the flat cable **100** positioned on the body **211** of the retainer **210**. In other words, the housing **220** may have a case shape that may accommodate the body **211** of the retainer **210** and portions of the flat cable **100** coupled thereto, and may enclose the body accommodated within the housing and the flat cable while the body and the flat cable is inserted into the housing. Thus, the housing **220** may have a shape whose surfaces contact the opposite surfaces of the flat cable **100**, and exposure depressions **221** (see FIG. **2**) for exposing the exposed conductors **110** of the flat cable **100** to the exterior for connection to the terminal may be formed on opposite surfaces of the housing **220**.

A plurality of exposure depressions **221** may be formed to individually expose the parallel conductors **110** (e.g., exposed conductors) of the flat cable **100** on the opposite surfaces of the housing **220**. Then, the exposure depressions **211** may be formed lengthily within the housing to expose substantially the entire exposed conductors **110** lengthily (e.g., in a lengthwise manner) to the exterior of the housing **220**. The exposure depressions **221** on the opposite surfaces of the housing **220** may be formed lengthily as a substantially straight line along a direction in which the connector **200** (e.g., male connector) according to the exemplary embodiment of the present invention may be inserted into a female connector for connection to the terminal **300** (see FIG. **8**), that is, along a coupling direction to the terminal **300** and a lengthwise direction of the exposed conductors **110**. The exposure depressions **221** on the opposite surfaces of the housing **220** may be formed to be disposed in parallel to each other along a widthwise direction of the flat cable **100** at a predetermined separation.

Further, a plurality of guides **222** in the form of partitions may be formed between the neighboring exposure depressions **221** of the housing **220**, and the guides **222** that protrude from the left and right sides of the insertion locations of the terminals may be configured to prevent the terminals **300** from being inserted incorrectly. The guides **222** may prevent a defective contact of the flat cable and the terminals. In other words, the guides **222** which may be partition parts between the neighboring exposure depressions **221**, and may be configured to guide the lengthily formed terminals **300** when the plurality of terminals **300** disposed in parallel in the female connector may be inserted into the exposure depressions **221** (see FIG. **2**) of the housing **220** for connection to the conductors **110** (see FIG. **8**).

Accordingly, during the connection of the terminals, after being inserted into the exposure depressions **221** divided by the guides **222**, the terminals **300** may be slid on the flat cable **100** and guided by the guides **222**. Since the guides **222** may protrude from the flat cable **100** disposed within the housing **220** and surfaces of the exposed conductors **110**, the terminals **300** inserted into the insertion bores **221** for connection may be more stably guided by the guides **222**. The housing **220** having the protruding guides **222** may be configured to protect the conductors **110** to prevent damage to the conductors **110** during drop thereof while being assembled with the retainer **210** such that the exposed conductors **110** of the flat cable **100** may be enclosed.

Moreover, fixing apertures **223** may be formed in the housing **220** to allow the position fixing bosses **212** of the retainer **210** to be inserted into the fixing apertures **223**, and the fixing apertures may be formed at an end of the housing **220** at a predetermined separation. For example, the position fixing bosses **212** of the retainer **210** inserted into the insertion bores **120** of the flat cable **100** may operate as a position fixing unit configured to fix the flat cable **100** in the connector **200** according to the exemplary embodiment of the present invention, and the position fixing bosses **212** may pass though the insertion bores **120** of the flat cable **100** and may be inserted into the fixing apertures **223** of the housing **220**.

In particular, a plurality of position fixing bosses **212** may be disposed at an end of the retainer **210** (e.g., an end of the body) covered by the flat cable **100** along a widthwise direction of the retainer (e.g., the same direction as a widthwise direction of the flat cable) at a predetermined separation, and a plurality of fixing apertures **223** may be disposed on the

corresponding surface of an end of the retailer of the housing **220** by a predetermined separation. A plurality of coupling hooks **224** coupled to the flange **213** of the retainer **210** may be formed at opposite widthwise ends of the housing **220** as a coupling unit for coupling the housing and the retainer. The coupling hooks **224** may be shaped to be caught by the flange **213** (e.g., connected to) while the flange **213** is inserted into the coupling unit **214** having a recess shape.

FIGS. **5**A to **5**E are exemplary views showing a process of assembling the connector and the flat cable according to the exemplary embodiment of the present invention. FIG. **6** is an exemplary partially sectional view showing the connector for a flat cable according to the exemplary embodiment of the present invention. FIG. **7** is an exemplary sectional view showing the connector, to illustrate a coupling state of the flat cable according to the exemplary embodiment of the present invention.

In the assembly process, after the position fixing bosses **212** of the retainer **210** are inserted into the insertion bores **120** of the flat cable **100** having the exposed conductors **110**, the housing **220** may cover the retainer **210** to allow the body **211** of the retainer **210** to be inserted into the housing **220**. Then, the flat cable **100** may be folded into a U-shaped form within the housing **220**, and when the coupling hooks **224** are assembled within the housing **220** to be caught by the flange **213** of the retainer **210**, the position fixing bosses **212** of the retainer **210** may be fixedly inserted into the fixing apertures **223** of the housing **220**. As a result, the flat cable **100** coupled to the retainer **210** may be sufficiently fixed by the position fixing bosses **212** to prevent movement of the flat cable **100** within the housing **220**, and in particular, the position fixing bosses **212** may prevent the flat cable **100** from moving lengthwise between the housing **220** and the retainer **210**.

As shown in FIG. **6**, since the guides **222** of the housing **220**, that is, the partitions of the housing **220** disposed in a space between the conductors **100** of the flat cable **100** may attach the flat cable **100** to the retainer **210**, the flat cable **100** may be maintained in a fixed state while being uniformly positioned without being floated or pushed from a surface of the retainer **210** and may form a more stable contact with the terminals.

As shown, the flat cable **100** may be protected in an interior of the housing **220**, and in particular, since a thickness of the housing **220**, in particular, a thickness of the guides **222** (partition parts) is of a predetermined measurement, the conductors **110** of the flat cable **100** may be safely protected even when the connector **200** drops or collides with another object while the flat cable **100** is assembled. The conductors **110** exposed from the opposite surfaces of the folded flat cable **100** may be exposed to the exterior through the exposure depressions **221** of the housing **220**, and when the terminals of the female connector are inserted into the exposure depressions **221** of the housing **220**, the flat cable **100** may be electrically connected while the conductors **110** and the terminal **300** are connected to each other.

FIG. **8** is an exemplary view of the terminals connected to the connector according to the exemplary embodiment of the present invention. When the terminals **300** are slid after being inserted into the exposure depressions **221** of the housing **220**, the terminals **300** may be electrically connected to the conductors **110** of the flat cable **100** exposed to the opposite surfaces of the housing **220** while being inserted into the exposure depressions **221**. Then, two contacts may be formed between the flat cable **100** and the terminals **300**, and the flat cable and the terminals may more stably contact each other due to the two contact structure to improve contact reliability between the flat cable and the terminals.

In the connector **200** according to the exemplary embodiment of the present invention, a coupled structure of the retainer **210** and the housing **220** may be a structure having a function of a joint connector **200**. In other words, since the connector **200** according to the exemplary embodiment of the present invention may have a structure in which one terminal **300** may be connected to the conductor **110** of the flat cable **100** exposed to the opposite surfaces thereof, the connector **200** may be configured to distribute and output input values generated in the terminals **300** to opposite sides of the flat cable **100**. An electrical signal may be branched out while taking the terminals **300** as an input and opposite sides of the flat cable **100** with respect to the connector **200** as an output. When the number and arrangement of the conductors **110** of the flat cable **100** and the terminals **300** are changed, other circuit connections may be configured, which may serve to classify the units when they are actually applied.

Although the exemplary embodiment of the present invention has been described until now, the scope of the present invention is not limited thereto, but various modifications and improvements of the basic concept of the present invention defined by the claims by those skilled in the art also fall within the scope of the present invention.

What is claimed is:

1. A connector for a flat cable, comprising:

a retainer coupled to the flat cable, wherein a portion of the flat cable covers an upper side of a plate-shaped body of the retainer;

a housing coupled to enclose the body of the retainer and the portion of the flat cable coupled to the body and having a plurality of exposure depressions configured to expose exposed conductors at a portion of the flat cable coupled to opposite surfaces of the body to the exterior to connect the conductors to terminals; and

a position fixing unit configured to fix a position of the flat cable coupled between the housing and the retainer,

wherein the position fixing unit includes a plurality of position fixing bosses formed in the body of the retainer to be inserted into the insertion bores of the flat cable, and

the position fixing bosses are inserted into fixing apertures that pass through the insertion bores of the flat cable and fixing apertures formed in the housing.

2. The connector of claim **1**, wherein the housing has a case shape that accommodates the body of the retainer and the portion of the flat cable coupled to the body, and is coupled to the retainer and the flat cable such that the body of the retainer and the portion of the flat cable are entirely enclosed by the housing.

3. The connector of claim **2**, wherein the exposure depressions of the housing are formed on opposite surfaces of the housing such that the exposed conductors at the portion of the flat cable coupled to opposite surfaces of the body of the retainer are exposed.

4. The connector of claim **2**, wherein the exposure depressions of the housing are formed along a lengthwise direction of the exposed conductors at the second portion of the flat cable, and the exposure depressions are formed in parallel to expose the parallel conductors at the portion of the flat cable coupled to the body.

5. The connector of claim **4**, wherein partition parts between neighboring exposure depressions of the housing are formed as a substantially straight line, and the partition parts are configured to guide the terminals when the terminals are inserted into the exposure depressions for connection to the conductors within the housing.

6. The connector of claim 5, wherein the partition parts of the housing are configured to attach the flat cable disposed within the housing to the body of the retainer.

7. The connector of claim 1, wherein the position fixing bosses are formed at an end of the body of the retainer covered by the flat cable along a widthwise direction of the body at a predetermined separation, and the fixing apertures are formed in the housing on a corresponding surface of the end of the body at a predetermined separation.

8. The connector of claim 1, wherein the retainer includes:

a body inserted into and coupled to the housing, wherein the body is plate-shaped to allow the portion of the flat cable to be folded into a U shape to be attached and coupled to the body between the housing and the body; and

a flange integrally formed with one side of the body and coupled to the housing.

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